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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/810,698

03/29/2004

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EXAMINER

PILKINGTON, JAMES

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/810,698	Applicant(s) MATSUMOTO ET AL.	
	Examiner James Pilkington	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/15/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiora, USP 6,014,909, in view of Applicant's admitted prior art.

Fiora discloses a laying device comprising:

- A relaying means (57, Figure 4) for relaying an arm side section of the line element (section 55 is on the arm side) extending through said hollow portion (inside arm member 20) out of a lead-out opening (hole in 56) formed on a side of said rotation shaft member (20)
- A tool side section of line element (58) extending from the tool (the tool is attached at flange 24)
- A direction in which said relaying means (57) connects the line element is substantially parallel to said tool mount surface (flange 24) and forms an angle other than 0 degrees with regard to a radial direction perpendicular to the rotation axis (21) (the relay means are elbow connections, therefore it extends both parallel to the tool mount surface and at an angle other than 0 degrees to a radial direction perpendicular to the rotation axis)

- Wherein said relaying means (57) is provided in the vicinity of said lead-out opening (see Figure 4)
- A plurality of pairs of lead-out openings and associated relay means (Fiora discloses 10 openings and relay means or in other words 5 pairs)

Fiora does not disclose that the relay connectors are straight relay connectors.

The Applicant's admitted prior art (Figures 4 and 5) teaches that straight relay connectors can be used to connect the two cables.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the elbow relay connectors of Fiora with straight relay connectors as suggested by Applicant's admitted prior art to yield the predictable result of providing more flexibility of the cable near the connection point with the relay.

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fiora '909 in view of Applicant's admitted prior art as applied to claim 1 above, and further in view of Szydel, USP 5,77,267.

Fiora in view of Applicant's admitted prior art does not disclose that the relay means are arranged side by side in the direction of the rotation axis.

Szydel teaches relay means (50/51/52 and 63/64) are arranged side by side in the direction of the rotation axis (see Figure 1 axis 4A/6A) for the purpose of providing an assembly which facilitates the routing of the supply lines in a robot arm such that the amount of flexing and bending of the lines is reduced and reduce the possibility the supply lines will be caught and damaged in the joints (C2/L43-49).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Fiora in view of Applicant's admitted prior art and provide for the relay means to be arranged side by side in the direction of the rotation axis, as taught by Szydel, for the purpose of providing an assembly which facilitates the routing of the supply lines in a robot arm such that the amount of flexing and bending of the lines is reduced and reduce the possibility the supply lines will be caught and damaged in the joints.

Also:

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiora, USP 6,014,909, in view of Saba, USP 5,454,737.

Fiora discloses a laying device comprising:

- A relaying means (57, Figure 4) for relaying an arm side section of the line element (section 55 is on the arm side) extending through said hollow portion (inside arm member 20) out of a lead-out opening (hole in 56) formed on a side of said rotation shaft member (20)
- A tool side section of line element (58) extending from the tool (the tool is attached at flange 24)
- A direction in which said relaying means (57) connects the line element is substantially parallel to said tool mount surface (flange 24) and forms an angle other than 0 degrees with regard to a radial direction perpendicular

to the rotation axis (21) (the relay means are elbow connections, therefore it extends both parallel to the tool mount surface and at an angle other than 0 degrees to a radial direction perpendicular to the rotation axis)

- Wherein said relaying means (57) is provided in the vicinity of said lead-out opening (see Figure 4)
- A plurality of pairs of lead-out openings and associated relay means (Fiora discloses 10 openings and relay means or in other words 5 pairs)

Fiora does not disclose that the relay connectors are straight relay connectors.

Saba teaches that straight relay connectors (10) can be used to connect the two cables (ends 20 and 30) that does not cause breakage in the wires (C1/L55-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the elbow relay connectors of Fiora with straight relay connectors, as taught by Saba, for the purpose of providing a connector that does not cause breakage in the wires (Saba, C1/L55-59), in addition this would yield the predictable result of providing more flexibility of the cable near the connection point with the relay.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fiora '909 in view of Saba as applied to claim 1 above, and further in view of Szydel, USP 5,77,267.

Fiora in view of Saba does not disclose that the relay means are arranged side by side in the direction of the rotation axis.

Szydel teaches relay means (50/51/52 and 63/64) are arranged side by side in the direction of the rotation axis (see Figure 1 axis 4A/6A) for the purpose of providing an assembly which facilitates the routing of the supply lines in a robot arm such that the amount of flexing and bending of the lines is reduced and reduce the possibility the supply lines will be caught and damaged in the joints (C2/L43-49).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Fiora in view of Saba and provide for the relay means to be arranged side by side in the direction of the rotation axis, as taught by Szydel, for the purpose of providing an assembly which facilitates the routing of the supply lines in a robot arm such that the amount of flexing and bending of the lines is reduced and reduce the possibility the supply lines will be caught and damaged in the joints.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-4 and 7 have been considered but are moot in view of the new ground(s) of rejection.

7. The Applicant is arguing that because Fiora does not disclose a straight relay connector Fiora does not anticipate the claim. It is the examiner's position that replacing the elbow relay with a straight relay extending in the same direction as the relay portion located near character 58 would render the claim obvious as recited above.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Pilkington whose telephone number is (571) 272-5052. The examiner can normally be reached on Monday-Friday 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3682

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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10/30/07

  
RICHARD RIDLEY  
SUPERVISORY PATENT EXAMINER